

INTERNATIONAL SEARCH REPORT

International Application No
PCT/GB2005/000363

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K47/48 A61K31/045 A61K31/19 A61K38/44 A61K38/51
A61P35/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, EMBASE, BIOSIS, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>PHILPOTT G W ET AL: "Affinity cell killing with an antibody alcohol dehydrogenase conjugate and allyl alcohol" PROCEEDINGS OF THE AMERICAN ASSOCIATION FOR CANCER RESEARCH 1975, vol. 16, no. 66, 1975, page 21, NO. 81, XP008045953 the whole document</p> <p>----- -/--</p>	1-24

☒ Further documents are listed in the continuation of box C.

☐ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance
 "E" earlier document but published on or after the international filing date
 "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
 "O" document referring to an oral disclosure, use, exhibition or other means
 "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
 "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
 "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
 "&" document member of the same patent family

Date of the actual completion of the international search

20 May 2005

Date of mailing of the international search report

19. 09. 2005

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>PHILPOTT G W ET AL: "AFFINITY CYTO TOXICITY WITH AN ALCOHOL DEHYDROGENASE ANTIBODY CONJUGATE AND ALLYL ALCOHOL" CANCER RESEARCH, vol. 39, no. 6 PART 1, 1979, pages 2084-2089, XP008045950 ISSN: 0008-5472 abstract page 2084, paragraph INTRODUCTION figure 1; tables 1,2</p> <p>-----</p>	1-24
X	<p>DUBROVSKY, T. ET AL: "Preparation and immobilization of Langmuir-Blodgett films of antibodies conjugated to enzymes for potentiometric sensor application" SENSORS AND ACTUATORS, B: CHEMICAL , B22(1), 69-73 CODEN: SABCEB; ISSN: 0925-4005, 1994, XP004012401</p>	14,15
Y	<p>abstract figures 3,4</p> <p>-----</p>	1-24
Y	<p>K. PARFITT (ED.): "MARTINDALE : THE COMPLETE DRUG REFERENCE" 1999, PHARMACEUTICAL PRESS , LONDON, GB , XP002328893 page 1560, right-hand column, paragraph CATALASE</p> <p>-----</p>	1-24
X	<p>K. PARFITT: "MARTINDALE : THE COMPLETE DRUG REFERENCE" 1999, PHARMACEUTICAL PRESS , LONDON, GB , XP002328894 page 1099, paragraph ALCOHOL - page 1101</p> <p>-----</p>	14,20-22

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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☒ Claims Nos.: 1-21, 24, 27, 28
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
14, 20-22 in part, 1-13, 15-19, 23 and 24

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box 11.2

Claims Nos.: 1-21, 24, 27, 28

Claims 1-21, 24, 27 and 28 encompass a genus of compounds defined only by their function (a substrate which is converted to acetaldehyde by the proton capable of converting said substrate to acetaldehyde) wherein the relationship between the structural features of the members of the genus and said function have not been defined. In the absence of such a relationship either disclosed in the as-filed application or which would have been recognized based upon information readily available to one skilled in the art, the skilled artisan would not know how to make and use compounds that lack structural definition. The fact that one could have assayed a compound of interest using the claimed assays does not overcome this defect since one would have no knowledge beforehand as to whether or not any given compound (other than those that might be particularly disclosed in an application) would fall within the scope of what is claimed. It would require undue experimentation (be an undue burden) to randomly screen undefined compounds for the claimed activity. A similar objection has to be raised for the definition of the enzyme in claims 1-8, 10-14, 16-21, 24, 27 and 28. Therefore, no search has been performed for claims 1-21, 24, 27 and 28 for those parts not defining the enzyme or the substrate (Art. 5 and Art. 6 PCT).

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 14, 20-22 in part, 1-13, 15-19, 23 and 24

Method of damaging cells according to claims 1-13, the compositions used in this method as defined in claims 14-20, their use in the manufacture of a medicament for the treatment of cancer (claims 21-22) and the therapeutic system of kit as defined in claims 23-24.

- 1.1. claims: 14, 20 and 21 in part, 1-13, 15-19, 23 and 24

Method of damaging cells according to claims 1-13, the compositions used in this method as defined in claims 14-20, their use in the manufacture of a medicament for the treatment of cancer (claims 21-22) and the therapeutic system of kit as defined in claims 23-24, insofar as limited to a conjugate of an antibody and one of the enzymes as defined.

- 1.2. claims: 14 and 20-22 in part

Pharmaceutical composition containing ethanol, and the use of ethanol in the manufacture of a medicament for the treatment of cancer.

2. claims: 14 and 20-22 in part

Pharmaceutical composition containing pyruvate, and the use of pyruvate in the manufacture of a medicament for the treatment of cancer.

3. claims: 25-26 in part

Human alcohol dehydrogenase for use in medicine, more specifically for the treatment of cancer.

4. claims: 25-26 in part

Pyruvate decarboxylase for use in medicine, more specifically for the treatment of cancer.

5. claims: 25-26 in part

Catalase for use in medicine, more specifically for the treatment of cancer.

6. claims: 25-26 in part

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

A microsomal oxidase for use in medicine, more specifically
for the treatment of cancer.

7. claims: 27-28

A method of damaging target cells using an enzyme-encoding
nucleic acid and a substrate as claimed.
